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Exam Code: 200-120

Exam Name: CCNA Cisco Certified Network Associate CCNA (803)

TYPE = DEMO

Question: 1

Refer to the exhibit:

Router1# **show ip arp**

Protocol	Address	Age(min)	Hardware Adddr	Type	Interface
Internet	192.168.20.5	9	0000.0c07.f892	ARPA	FastEthernet0/0
Internet	192.168.60.5	8	0000.0c07.ac00	ARPA	FastEthernet0/1
Internet	192.168.20.1	-	0000.0c63.ae45	ARPA	FastEthernet0/0
Internet	192.168.40.5	9	0000.0c07.4320	ARPA	FastEthernet0/2
Internet	192.168.60.1	-	0000.0c63.1300	ARPA	FastEthernet0/1
Internet	192.168.40.1	-	0000.0c36.6965	ARPA	FastEthernet0/2

Data Frame:

Source MAC	Source IP	Destination MAC	Destination IP
0000.0c07.f892	192.168.20.5	0000.0c63.ae45	192.138.40.5

What will Router1 do when it receives the data frame shown? (Choose three.)

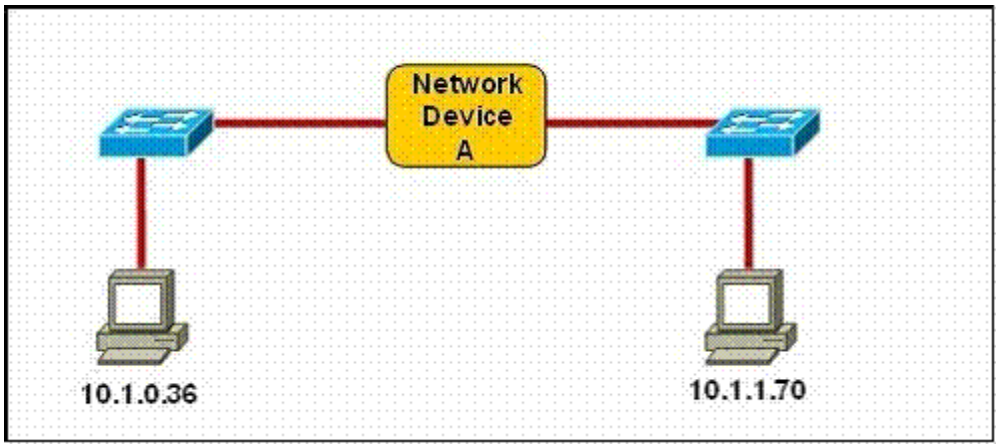
A. Router1 will strip off the source MAC address and replace it with the MAC address 0000.0c36.6965.
B. Router1 will strip off the source IP address and replace it with the IP address 192.168.40.1.
C. Router1 will strip off the destination MAC address and replace it with the MAC address 0000.0c07.4320.
D. Router1 will strip off the destination IP address and replace it with the IP address of 192.168.40.1.
E. Router1 will forward the data packet out interface FastEthernet0/1.
F. Router1 will forward the data packet out interface FastEthernet0/2.

Answer: A, C, F

Explanation:
Remember, the source and destination MAC changes as each router hop along with the TTL being decremented but the source and destination IP address remain the same from source to destination.

Question: 2

Refer to the exhibit.



Which three statements correctly describe Network Device A? (Choose three.)

A. With a network wide mask of 255.255.255.128, each interface does not require an IP address.
B. With a network wide mask of 255.255.255.128, each interface does require an IP address on a unique IP subnet.
C. With a network wide mask of 255.255.255.0, must be a Layer 2 device for the PCs to communicate with each other.
D. With a network wide mask of 255.255.255.0, must be a Layer 3 device for the PCs to communicate with each other.
E. With a network wide mask of 255.255.254.0, each interface does not require an IP address.

Answer: B, D, E

Explanation:
If Subnet Mask is 255.255.255.128 the hosts vary from x.x.x.0 - x.x.x.127 & x.x.x.128- x.x.x.255,so the IP Addresses of 2 hosts fall in different subnets so each interface needs an IP an address so that they can communicate each other.
If Subnet Mask is 255.255.255.0 the 2 specified hosts fall in different subnets so they need a Layer 3 device to communicate.
If Subnet Mask is 255.255.254.0 the 2 specified hosts are in same subnet so are in network address and can be accommodated in same Layer 2 domain and can communicate with each other directly using the Layer 2 address.

Question: 3

Which layer in the OSI reference model is responsible for determining the availability of the receiving program and checking to see if enough resources exist for that communication?

A. transport
B. network
C. presentation
D. session
E. application

Answer: E

Explanation:
This question is to examine the OSI reference model.
The Application layer is responsible for identifying and establishing the availability of the intended communication partner and determining whether sufficient resources for the intended communication exist.

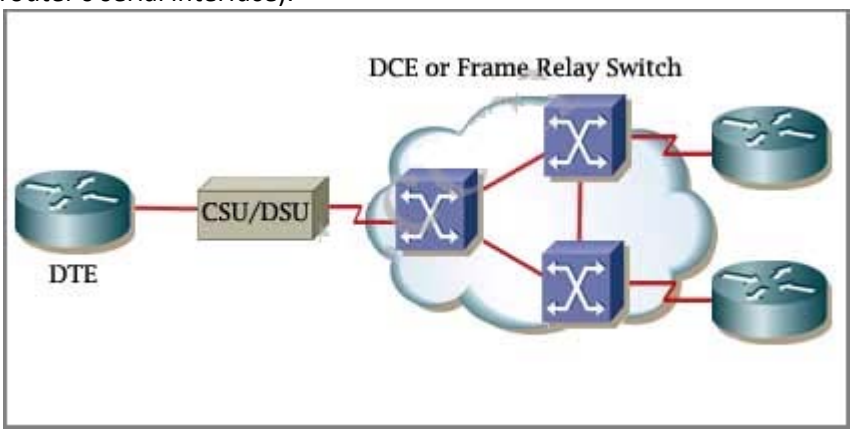
Question: 4

Which of the following describes the roles of devices in a WAN? (Choose three.)

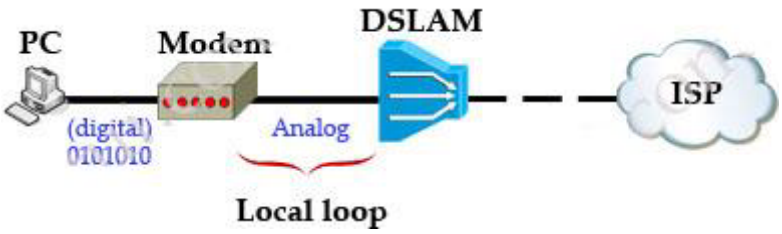
A. A CSU/DSU terminates a digital local loop.
B. A modem terminates a digital local loop.
C. A CSU/DSU terminates an analog local loop.
D. A modem terminates an analog local loop.
E. A router is commonly considered a DTE device.
F. A router is commonly considered a DCE device.

Answer: A, D, E

Explanation:
The idea behind a WAN is to be able to connect two DTE networks together through a DCE network. The network's DCE device (includes CSU/DSU) provides clocking to the DTE-connected interface (the router's serial interface).

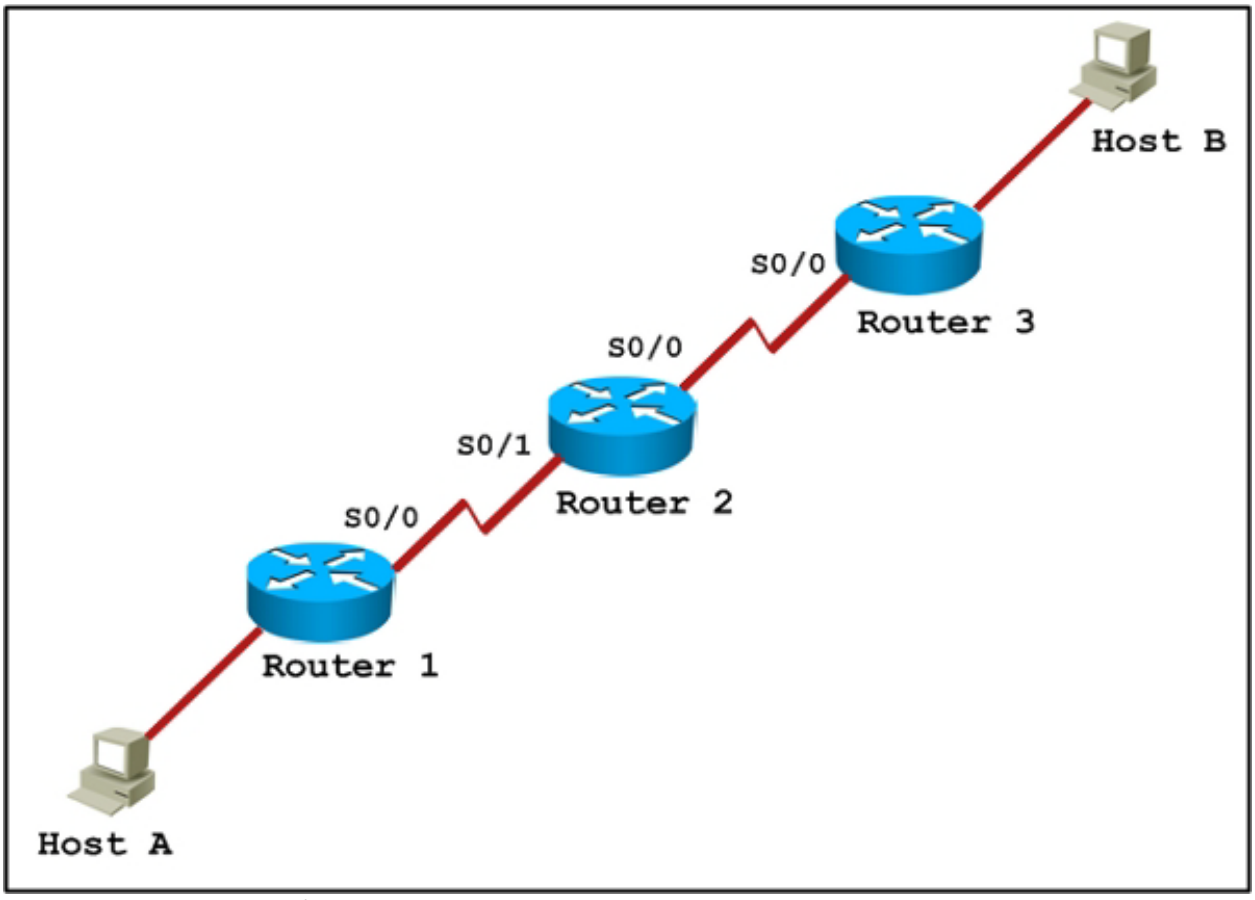


A modem modulates outgoing digital signals from a computer or other digital device to analog signals for a conventional copper twisted pair telephone line and demodulates the incoming analog signal and converts it to a digital signal for the digital device. A CSU/DSU is used between two digital lines -
For more explanation of answer D, in telephony the local loop (also referred to as a subscriber line) is the physical link or circuit that connects from the demarcation point of the customer premises to the edge of the carrier or telecommunications service provider's network. Therefore a modem terminates an analog local loop is correct.



Question: 5

Refer to the exhibit.



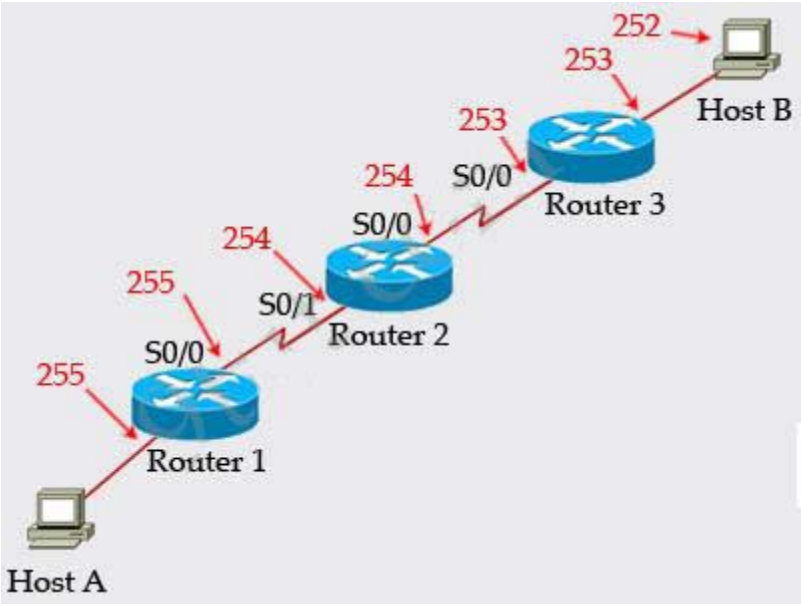
Host A pings interface S0/0 on router 3. What is the TTL value for that ping?

A. 252
B. 253
C. 254
D. 255

Answer: B

Explanation:
From the CCNA ICND2 Exam book: "Routers decrement the TTL by 1 every time they forward a packet; if a router decrements the TTL to 0, it throws away the packet. This prevents packets from rotating forever." I want to make it clear that before the router forwards a packet, the TTL is still

remain the same. For example in the topology above, pings to S0/1 and S0/0 of Router 2 have the same TTL.
The picture below shows TTL values for each interface of each router and for Host B. Notice that Host A initializes ICMP packet with a TTL of 255:



Question: 6

A network administrator is verifying the configuration of a newly installed host by establishing an FTP connection to a remote server. What is the highest layer of the protocol stack that the network administrator is using for this operation?

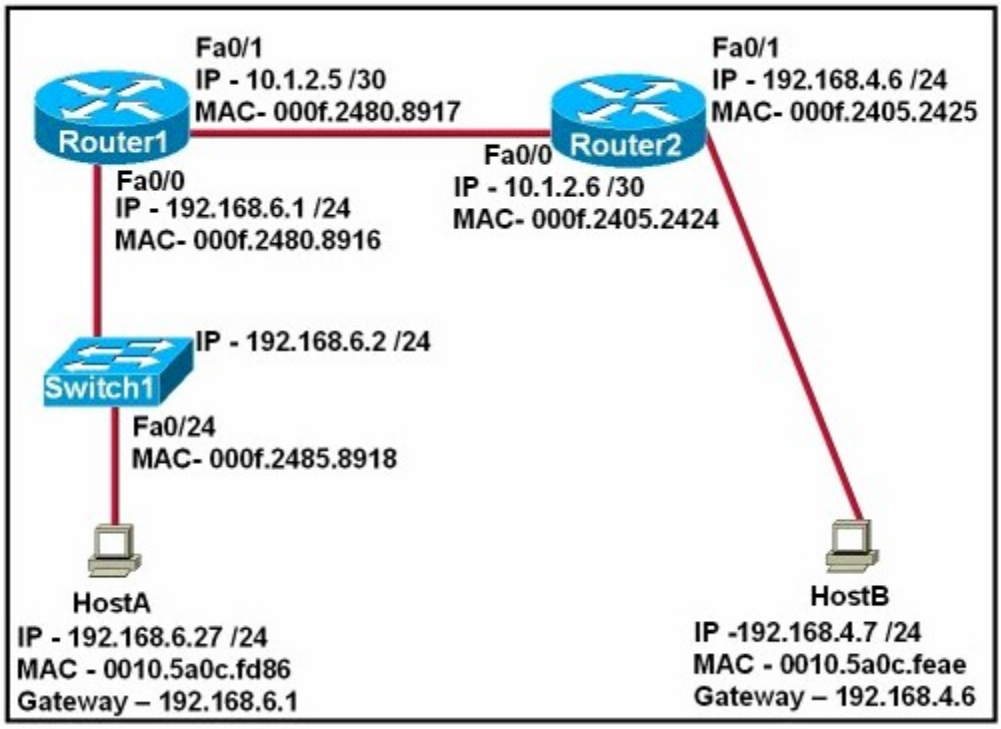
A. application
B. presentation
C. session
D. transport
E. internet
F. data link

Answer: A

Explanation:
FTP belongs to Application layer and it is also the highest layer of the OSI model.

Question: 7

Refer to the exhibit.



After HostA pings HostB, which entry will be in the ARP cache of HostA to support this transmission?

A.

Interface Address	Physical Address	Type
192.168.4.7	000f.2480.8916	dynamic

B.

Interface Address	Physical Address	Type
192.168.4.7	0010.5a0c.feae	dynamic

C.

Interface Address	Physical Address	Type
192.168.6.1	0010.5a0c.feae	dynamic

D.

Interface Address	Physical Address	Type
192.168.6.1	000f.2480.8916	dynamic

E.

Interface Address	Physical Address	Type
192.168.6.2	0010.5a0c.feae	dynamic

F.

Interface Address	Physical Address	Type
192.168.6.2	000f.2485.8918	dynamic

Answer: A

Explanation:
When a host needs to reach a device on another subnet, the ARP cache entry will be that of the Ethernet address of the local router (default gateway) for the physical MAC address. The destination IP address will not change, and will be that of the remote host (HostB).

Question: 8

A network interface port has collision detection and carrier sensing enabled on a shared twisted pair network. From this statement, what is known about the network interface port?

A. This is a 10 Mb/s switch port.
B. This is a 100 Mb/s switch port.
C. This is an Ethernet port operating at half duplex.
D. This is an Ethernet port operating at full duplex.
E. This is a port on a network interface card in a PC.

Answer: C

Explanation:
Modern Ethernet networks built with switches and full-duplex connections no longer utilize CSMA/CD. CSMA/CD is only used in obsolete shared media Ethernet (which uses repeater or hub).

Question: 9

A receiving host computes the checksum on a frame and determines that the frame is damaged. The frame is then discarded. At which OSI layer did this happen?

A. session
B. transport
C. network
D. data link
E. physical

Answer: D

Explanation:
The Data Link layer provides the physical transmission of the data and handles error notification, network topology, and flow control. The Data Link layer formats the message into pieces, each called a data frame, and adds a customized header containing the hardware destination and source address. Protocols Data Unit (PDU) on Datalink layer is called frame. According to this question the frame is damaged and discarded which will happen at the Data Link layer.

Question: 10

Which of the following correctly describe steps in the OSI data encapsulation process? (Choose two.)

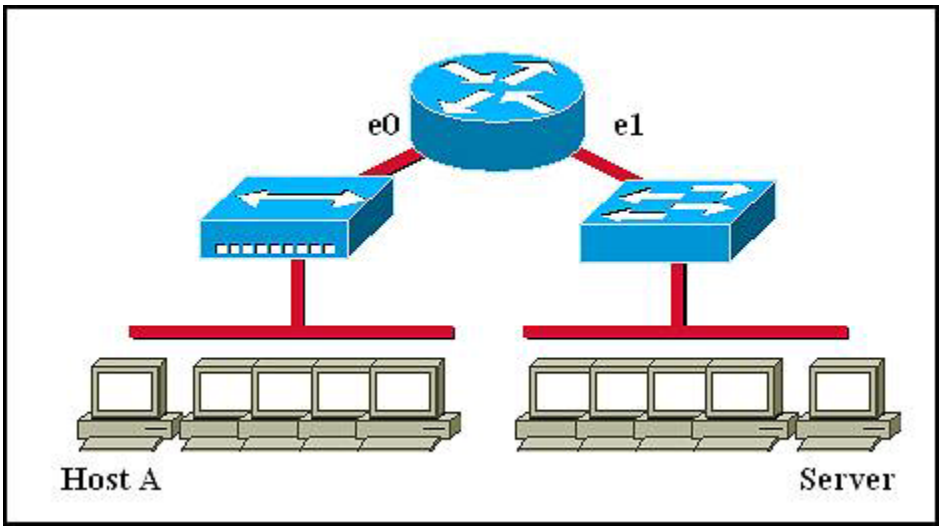
A. The transport layer divides a data stream into segments and may add reliability and flow control information.
B. The data link layer adds physical source and destination addresses and an FCS to the segment.
C. Packets are created when the network layer encapsulates a frame with source and destination host addresses and protocol-related control information.
D. Packets are created when the network layer adds Layer 3 addresses and control information to a segment.
E. The presentation layer translates bits into voltages for transmission across the physical link.

Answer: A, D

Explanation:
The Application Layer (Layer 7) refers to communications services to applications and is the interface between the network and the application. Examples include. Telnet, HTTP, FTP, Internet browsers, NFS, SMTP gateways, SNMP, X.400 mail, and FTAM.
The Presentation Layer (Layer 6) defining data formats, such as ASCII text, EBCDIC text, binary, BCD, and JPEG. Encryption also is defined as a presentation layer service. Examples include. JPEG, ASCII, EBCDIC, TIFF, GIF, PICT, encryption, MPEG, and MIDI.
The Session Layer (Layer 5) defines how to start, control, and end communication sessions. This includes the control and management of multiple bidirectional messages so that the application can be notified if only some of a series of messages are completed. This allows the presentation layer to have a seamless view of an incoming stream of data. The presentation layer can be presented with data if all flows occur in some cases. Examples include. RPC, SQL, NFS, NetBios names, AppleTalk ASP, and DECnet SCP
The Transport Layer (Layer 4) defines several functions, including the choice of protocols. The most important Layer 4 functions are error recovery and flow control. The transport layer may provide for retransmission, i.e., error recovery, and may use flow control to prevent unnecessary congestion by attempting to send data at a rate that the network can accommodate, or it might not, depending on the choice of protocols. Multiplexing of incoming data for different flows to applications on the same host is also performed. Reordering of the incoming data stream when packets arrive out of order is included. Examples include. TCP, UDP, and SPX.
The Network Layer (Layer 3) defines end-to-end delivery of packets and defines logical addressing to accomplish this. It also defines how routing works and how routes are learned; and how to fragment a packet into smaller packets to accommodate media with smaller maximum transmission unit sizes. Examples include. IP, IPX, AppleTalk DDP, and ICMP. Both IP and IPX define logical addressing, routing, the learning of routing information, and end-to-end delivery rules. The IP and IPX protocols most closely match the OSI network layer (Layer 3) and are called Layer 3 protocols because their functions most closely match OSI's Layer 3.
The Data Link Layer (Layer 2) is concerned with getting data across one particular link or medium. The data link protocols define delivery across an individual link. These protocols are necessarily concerned with the type of media in use. Examples includE. IEEE 802.3/802.2, HDLC, Frame Relay, PPP, FDDI, ATM, and IEEE 802.5/802.2.

Question: 11

Refer to the graphic.



Host A is communicating with the server. What will be the source MAC address of the frames received by Host A from the server?

A. the MAC address of router interface e0
B. the MAC address of router interface e1
C. the MAC address of the server network interface
D. the MAC address of host A

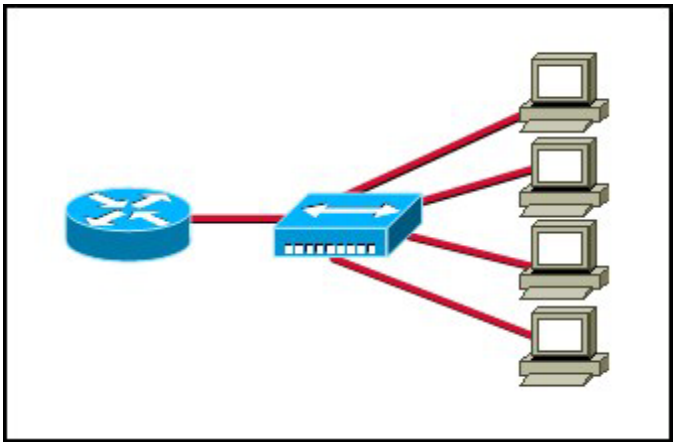
Answer: A

Explanation:
Whereas switches can only examine and forward packets based on the contents of the MAC header, routers can look further into the packet to discover the network for which a packet is destined. Routers make forwarding decisions based on the packet's network-layer header (such as an IPX header or IP header). These network-layer headers contain source and destination network addresses. Local devices address packets to the router's MAC address in the MAC header. After receiving the packets, the router must perform the following steps:
1. Check the incoming packet for corruption, and remove the MAC header . The router checks the packet for MAC-layer errors. The router then strips off the MAC header and examines the network-layer header to determine what to do with the packet.
2. Examine the age of the packet. The router must ensure that the packet has not come too far to be forwarded. For example, IPX headers contain a hop count. By default, 15 hops is the maximum number of hops (or routers) that a packet can cross. If a packet has a hop count of 15, the router discards the packet. IP headers contain a Time to Live (TTL) value. Unlike the IPX hop count, which increments as the packet is forwarded through each router, the IP TTL value decrements as the IP packet is forwarded through each router. If an IP packet has a TTL value of 1, the router discards the packet. A router cannot decrement the TTL value to 1 and then forward the packet.
3. Determine the route to the destination. Routers maintain a routing table that lists available networks, the direction to the desired network (the outgoing interface number), and the distance to those networks. After determining which direction to forward the packet, the router must build a new header. (If you want to read the IP routing tables on a Windows 95/98 workstation, type ROUTE PRINT in the DOS box.)

4. Build the new MAC header and forward the packet. Finally, the router builds a new MAC header for the packet. The MAC header includes the router's MAC address and the final destination's MAC address or the MAC address of the next router in the path.

Question: 12

Refer to the exhibit.



What two results would occur if the hub were to be replaced with a switch that is configured with one Ethernet VLAN? (Choose two.)

A. The number of collision domains would remain the same.
B. The number of collision domains would decrease.
C. The number of collision domains would increase.
D. The number of broadcast domains would remain the same.
E. The number of broadcast domains would decrease.
F. The number of broadcast domains would increase.

Answer: C, D

Explanation:
Basically, a collision domain is a network segment that allows normal network traffic to flow back and forth. In the old days of hubs, this meant you had a lot of collisions, and the old CSMA/CD would be working overtime to try to get those packets re-sent every time there was a collision on the wire (since ethernet allows only one host to be transmitting at once without there being a traffic jam). With switches, you break up collision domains by switching packets bound for other collision domains. These days, since we mostly use switches to connect computers to the network, you generally have one collision domain to a PC.
Broadcast domains are exactly what they imply: they are network segments that allow broadcasts to be sent across them. Since switches and bridges allow for broadcast traffic to go unswitched, broadcasts can traverse collision domains freely. Routers, however, don't allow broadcasts through by default, so when a broadcast hits a router (or the perimeter of a VLAN), it doesn't get forwarded. The simple way to look at it is this way: switches break up collision domains, while routers (and VLANs) break up collision domains and broadcast domains. Also, a broadcast domain can contain multiple collision domains, but a collision domain can never have more than one broadcast domain associated with it.

Collision Domain: A group of Ethernet or Fast Ethernet devices in a CSMA/CD LAN that are connected by repeaters and compete for access on the network. Only one device in the collision domain may transmit at any one time, and the other devices in the domain listen to the network in order to avoid data collisions. A collision domain is sometimes referred to as an Ethernet segment.
Broadcast Domain: Broadcasting sends a message to everyone on the local network (subnet). An example for Broadcasting would be DHCP Request from a Client PC. The Client is asking for a IP Address, but the client does not know how to reach the DHCP Server. So the client sends a DHCP Discover packet to EVERY PC in the local subnet (Broadcast). But only the DHCP Server will answer to the Request.
How to count them?
Broadcast Domain:
No matter how many hosts or devices are connected together, if they are connected with a repeater, hub, switch or bridge, all these devices are in ONE Broadcast domain (assuming a single VLAN). A Router is used to separate Broadcast-Domains (we could also call them Subnets - or call them VLANs).
So, if a router stands between all these devices, we have TWO broadcast domains.
Collision Domain:
Each connection from a single PC to a Layer 2 switch is ONE Collision domain. For example, if 5 PCs are connected with separate cables to a switch, we have 5 Collision domains. If this switch is connected to another switch or a router, we have one collision domain more.
If 5 Devices are connected to a Hub, this is ONE Collision Domain. Each device that is connected to a Layer 1 device (repeater, hub) will reside in ONE single collision domain.

Question: 13

Which three statements accurately describe Layer 2 Ethernet switches? (Choose three.)

A. Spanning Tree Protocol allows switches to automatically share VLAN information.
B. Establishing VLANs increases the number of broadcast domains.
C. Switches that are configured with VLANs make forwarding decisions based on both Layer 2 and Layer 3 address information.
D. Microsegmentation decreases the number of collisions on the network.
E. In a properly functioning network with redundant switched paths, each switched segment will contain one root bridge with all its ports in the forwarding state. All other switches in that broadcast domain will have only one root port.
F. If a switch receives a frame for an unknown destination, it uses ARP to resolve the address.

Answer: B, D, E

Explanation:
Microsegmentation is a network design (functionality) where each workstation or device on a network gets its own dedicated segment (collision domain) to the switch. Each network device gets the full bandwidth of the segment and does not have to share the segment with other devices. Microsegmentation reduces and can even eliminate collisions because each segment is its own collision domain -> .
Note: Microsegmentation decreases the number of collisions but it increases the number of collision domains.

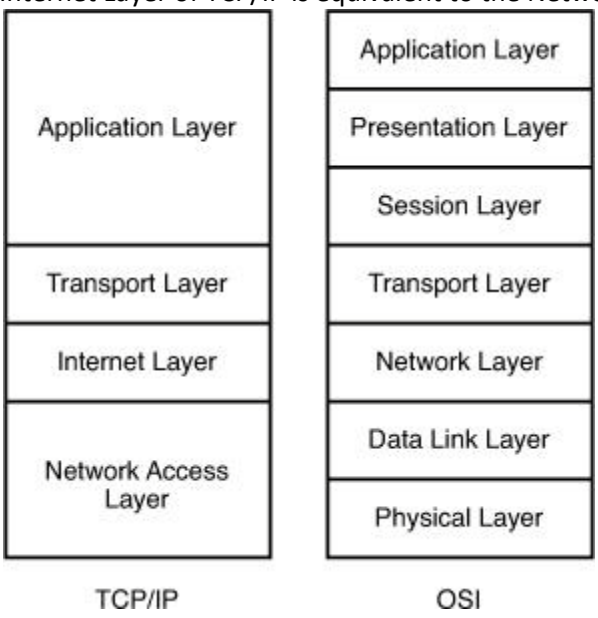
Question: 14

Where does routing occur within the DoD TCP/IP reference model?

A. application
B. internet
C. network
D. transport

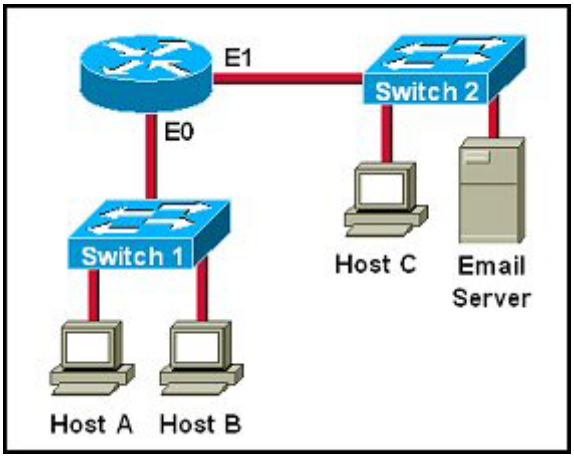
Answer: B

Explanation:
The picture below shows the comparison between TCP/IP model & OSI model. Notice that the Internet Layer of TCP/IP is equivalent to the Network Layer which is responsible for routing decision.



Question: 15

Refer to exhibit:



Which destination addresses will be used by Host A to send data to Host C? (Choose two.)

A. the IP address of Switch 1
B. the MAC address of Switch 1
C. the IP address of Host C
D. the MAC address of Host C
E. the IP address of the router's E0 interface
F. the MAC address of the router's E0 interface

Answer: C, F

Explanation:
While transferring data through many different networks, the source and destination IP addresses are not changed. Only the source and destination MAC addresses are changed. So in this case Host A will use the IP address of Host C and the MAC address of E0 interface to send data. When the router receives this data, it replaces the source MAC address with it own E1 interface's MAC address and replaces the destination MAC address with Host C's MAC address before sending to Host C .

Question: 16

For what two purposes does the Ethernet protocol use physical addresses? (Choose two.)

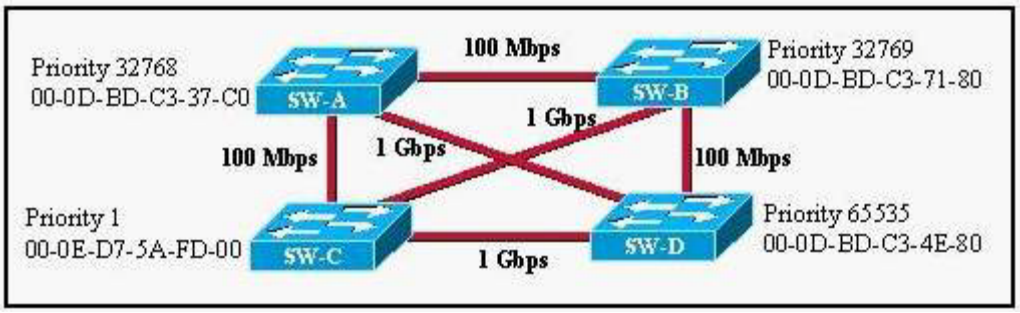
A. to uniquely identify devices at Layer 2
B. to allow communication with devices on a different network
C. to differentiate a Layer 2 frame from a Layer 3 packet
D. to establish a priority system to determine which device gets to transmit first
E. to allow communication between different devices on the same network
F. to allow detection of a remote device when its physical address is unknown

Answer: A, E

Explanation:
Physical addresses or MAC addresses are used to identify devices at layer 2.
MAC addresses are only used to communicate on the same network. To communicate on different network we have to use Layer 3 addresses (IP addresses) -> B is not correct.
Layer 2 frame and Layer 3 packet can be recognized via headers. Layer 3 packet also contains physical address ->
On Ethernet, each frame has the same priority to transmit by default ->
All devices need a physical address to identify itself. If not, they can not communicate ->

Question: 17

Refer to the exhibit.



Based on the information given, which switch will be elected root bridge and why?

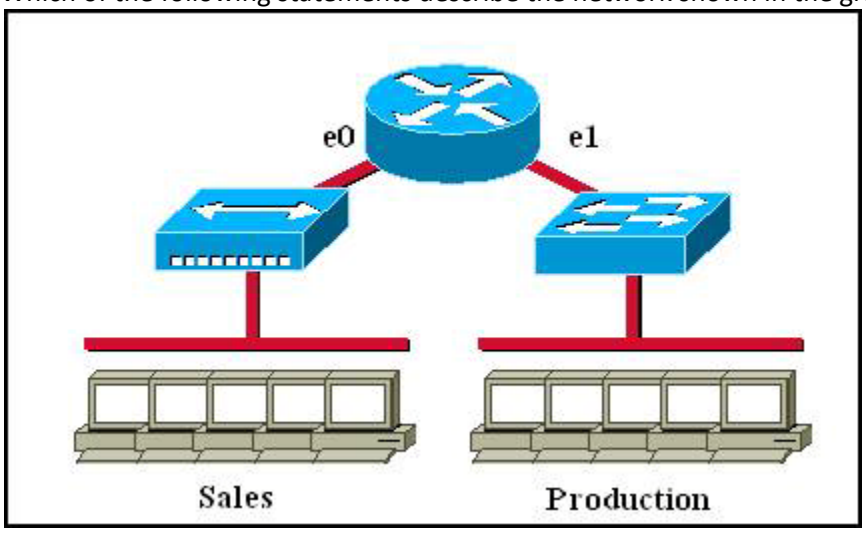
A. Switch A, because it has the lowest MAC address
B. Switch A, because it is the most centrally located switch
C. Switch B, because it has the highest MAC address
D. Switch C, because it is the most centrally located switch
E. Switch C, because it has the lowest priority
F. Switch D, because it has the highest priority

Answer: E

Explanation:
To elect the root bridge in the LAN, first check the priority value. The switch having the lowest priority will win the election process. If Priority Value is the same then it checks the MAC Address; the switch having the lowest MAC Address will become the root bridge. In this case, switch C has the lowest MAC Address so it becomes the root bridge.

Question: 18

Which of the following statements describe the network shown in the graphic? (Choose two.)



A. There are two broadcast domains in the network.
B. There are four broadcast domains in the network.
C. There are six broadcast domains in the network.
D. There are four collision domains in the network.

E. There are five collision domains in the network.
F. There are seven collision domains in the network.

Answer: A, F

Explanation:
Only router can break up broadcast domains so in the exhibit there are 2 broadcast domains: from e0 interface to the left is a broadcast domain and from e1 interface to the right is another broadcast domain ->.
Both router and switch can break up collision domains so there is only 1 collision domain on the left of the router (because hub doesn't break up collision domain) and there are 6 collision domains on the right of the router (1 collision domain from e1 interface to the switch + 5 collision domains for 5 PCs in Production) ->

Question: 19

In an Ethernet network, under what two scenarios can devices transmit? (Choose two.)

A. when they receive a special token
B. when there is a carrier
C. when they detect no other devices are sending
D. when the medium is idle
E. when the server grants access

Answer: C, D

Explanation:
Ethernet network is a shared environment so all devices have the right to access to the medium. If more than one device transmits simultaneously, the signals collide and can not reach the destination.
If a device detects another device is sending, it will wait for a specified amount of time before attempting to transmit.
When there is no traffic detected, a device will transmit its message. While this transmission is occurring, the device continues to listen for traffic or collisions on the LAN. After the message is sent, the device returns to its default listening mode.

Question: 20

A router has two Fast Ethernet interfaces and needs to connect to four VLANs in the local network. How can you accomplish this task, using the fewest physical interfaces and without decreasing network performance?

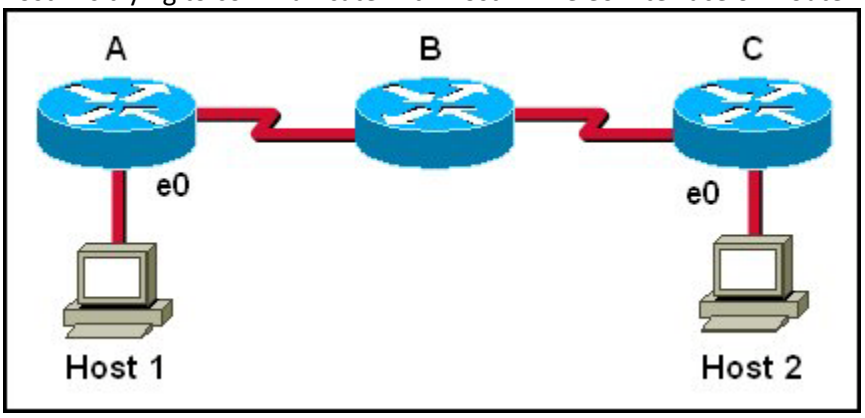
A. Use a hub to connect the four VLANS with a Fast Ethernet interface on the router.
B. Add a second router to handle the VLAN traffic.
C. Add two more Fast Ethernet interfaces.
D. Implement a router-on-a-stick configuration.

Answer: D

Explanation:
A router on a stick allows you to use sub-interfaces to create multiple logical networks on a single physical interface.

Question: 21

Host 1 is trying to communicate with Host 2. The e0 interface on Router C is down.



Which of the following are true? (Choose two.)

A. Router C will use ICMP to inform Host 1 that Host 2 cannot be reached.
B. Router C will use ICMP to inform Router B that Host 2 cannot be reached.
C. Router C will use ICMP to inform Host 1, Router A, and Router B that Host 2 cannot be reached.
D. Router C will send a Destination Unreachable message type.
E. Router C will send a Router Selection message type.
F. Router C will send a Source Quench message type.

Answer: A, D

Explanation:
Host 1 is trying to communicate with Host 2. The e0 interface on Router C is down. Router C will send ICMP packets to inform Host 1 that Host 2 cannot be reached.

Question: 22

What is the difference between a CSU/DSU and a modem?

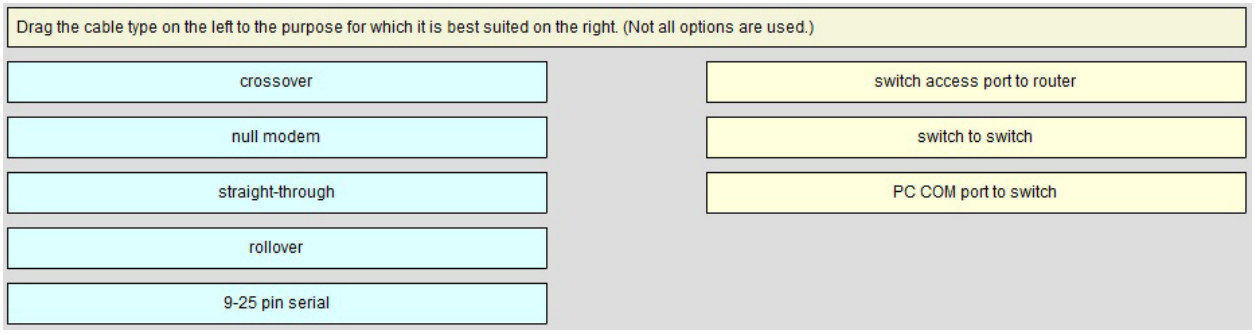
A. A CSU/DSU converts analog signals from a router to a leased line; a modem converts analog signals from a router to a leased line.
B. A CSU/DSU converts analog signals from a router to a phone line; a modem converts digital signals from a router to a leased line.
C. A CSU/DSU converts digital signals from a router to a phone line; a modem converts analog signals from a router to a phone line.
D. A CSU/DSU converts digital signals from a router to a leased line; a modem converts digital signals from a router to a phone line.

Answer: D

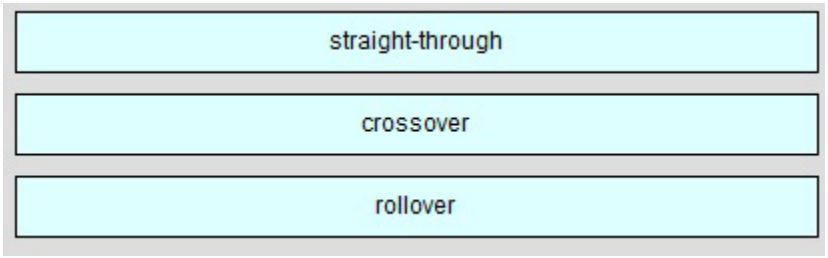
Explanation:
CSU/DSU is used to convert digital signals from a router to a network circuit such as a T1, while a modem is used to convert digital signals over a regular POTS line.

Question: 23

DRAG DROP
Drag the cable on the left to the purpose for which it is best suited on the right. (Not all options are used.)



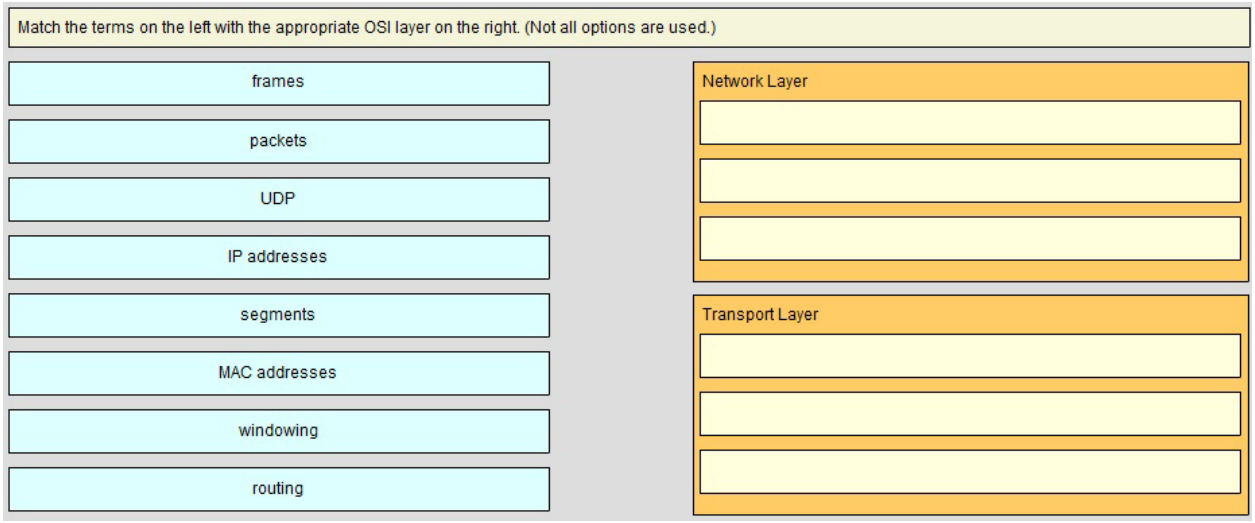
Answer:



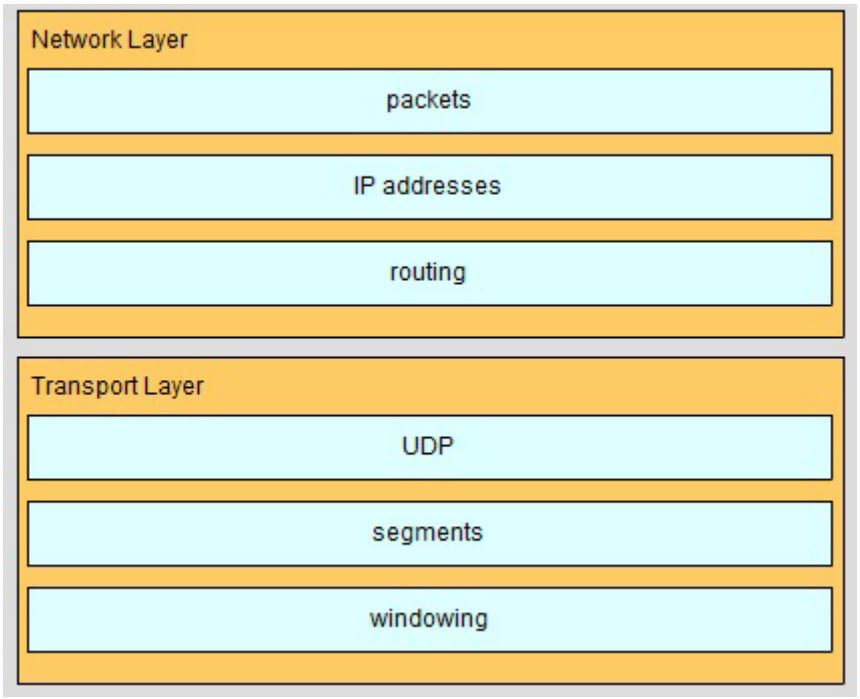
Explanation:
To remember which type of cable you should use, follow these tips:
- To connect two serial interfaces of 2 routers we use serial cable
– To specify when we use crossover cable or straight-through cable, we should remember:
Group 1: Router, Host, Server
Group 2: Hub, Switch
One device in group 1 + One device in group 2: use straight-through cable
Two devices in the same group: use crossover cable
For example: we use straight-through cable to connect switch to router, switch to host, hub to host, hub to server… and we use crossover cable to connect switch to switch, switch to hub, router to router, host to host…)

Question: 24

DRAG DROP
Match the terms on the left with the appropriate OSI layer on the right. (Not all options are used.)

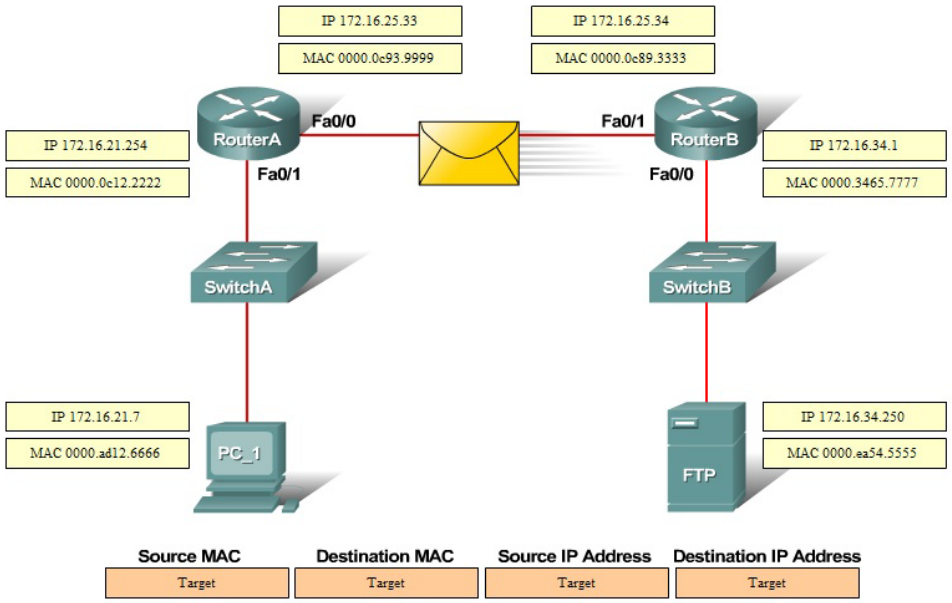


Answer:



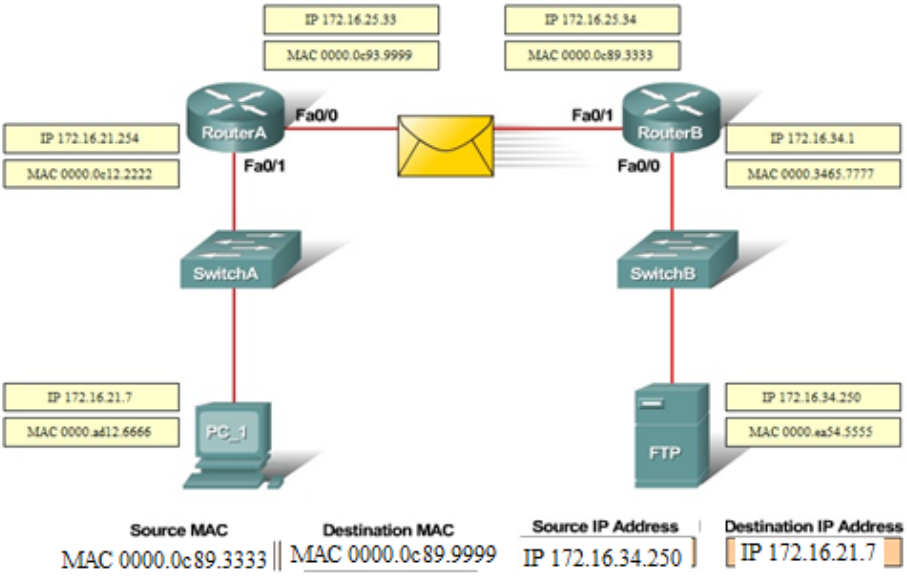
Question: 25
DRAG DROP
Refer to the Exhibit. PC_1 is exchanging packets with the FTP server. Consider the packets as they leave RouterB interface Fa0/1 towards RouterA.Drag the Correct frame and packet addresses to their place in the table.

Refer to the exhibit. PC_1 is exchanging packets with the FTP server. Consider the packets as they leave RouterB interface Fa0/1 towards RouterA. Drag the correct frame and packet addresses to their place in the table.



Answer:

Refer to the exhibit. PC_1 is exchanging packets with the FTP server. Consider the packets as they leave RouterB interface Fa0/1 towards RouterA. Drag the correct frame and packet addresses to their place in the table.



Explanation:
1) Source Mac Address
2) Destination Mac Address
3) Source IP address
4) Destination MAC address

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1) MAC 0000.0c89.3333
2) MAC 0000.0c89.9999
3) IP 172.16.34.250
4) IP 172.16.21.7

Thank You for Trying Our Product

If you have any questions or difficulties regarding this product, feel free to Live Chat.